

monthly review. In Brazil, observations were made at Rio de Janeiro, since 1825, but no record of them is to be found until 1844; from this time summaries have been regularly published. A Central Meteorological Department was established in 1888 in connection with the bureau of the Navy, but the climatological service has not yet been organised.—The forecasting of ocean storms, &c., by W. Allingham. This paper was prepared for the International Meteorological Congress held at Chicago in August last. It deals more particularly with the storms of the North Atlantic, and the author shows that at present any attempt to forecast them from America is not very successful. Nevertheless, the Meteorological Office of Paris continues to receive and publish daily reports from the United States and Canada, as well as from steamers arriving at American ports from the Atlantic.—Sun-spots and Auroras, by Prof. H. A. Hazen. The author has laid down curves of all the sun-spots measured on the Greenwich and India photographs from 1881 to 1888, and also the auroral numbers recorded in the United States, and shows that auroras and sun-spots are not concomitant or coincident phenomena. For the purpose of inquiring into the annual range, the auroras and sun-spots for twenty-three years have been summed for months. There is a remarkable correspondence in these results; both phenomena show a maximum in April, and the second maximum occurs in September for auroras, and in October for sun-spots. Prof. Hazen considers that the investigation of sun-spots and auroras is the most promising line that can be taken in a study of the possible effects from some cosmical force upon our atmosphere.

Bulletin of the American Mathematical Society, second series, vol. i. No. 1 (October 1894).—This is a continuation of the *Bulletin* of the New York Society. The title of the Society having been changed, as previously announced, of necessity the title of the *Bulletin* is also changed. An article on the "Summer meeting of the American Mathematical Society" gives an account of the doings, and abstracts of the papers read, at the August meeting in Brooklyn, N.Y., of the American Association for the Advancement of Science. The co-operation of the two Associations resulted in a successful gathering for the younger body.—Other articles in this number are on the connection between binary quartics and elliptic functions, by Prof. E. Study. This is an abstract of a paper which will appear in the *American Journal of Mathematics*. It shows how a certain group of rational and irrational co-variants of a binary quartic can be expressed as one-valued functions of one or two parameters, thus filling up a number of lacunæ contained in former presentations of the subject.—Reduction of the resultant of a binary quadric and n -ic by virtue of its semi-combinant property, by Prof. H. S. White. The author discusses the partial problem solved by Clebsch, viz. to write in symbolic form the resultant of a binary quadric and a binary quantic of arbitrary order n . The method employed is novel, and illustrates the utility of the theory of conjugate forms.—Next a list of astronomical papers read at the American Association meeting (see *supra*), is given, and short abstracts supplied. Notes and new publications complete this number.

American Journal of Mathematics, vol. xvi. No. 4 (Baltimore, October 1894).—"Sur la transformation des courbes algébriques," by E. Goursat (pp. 291–298), discusses two generalisations of a theorem demonstrated by Lüroth (*Math. Ann.* ix. p. 163). The rest of the number (pp. 299–396) is taken up by a masterly memoir on isotropic elastic solids of nearly spherical form, by C. Chree. It is preceded by a full table of contents, and has 320 equations. The author remarks that the investigation of a solution of the elastic solid equations for the equilibrium or motion of homogeneous isotropic material enclosed by the simplest of all surfaces, the spherical, presents no small difficulty. For even a slight departure from the spherical form the increase of difficulty is so considerable that, so far as I know, the only problem of the class successfully treated hitherto is that of a nearly spherical solid exposed to gravitational force, but free of all surface force. In the case considered by Mr. Chree, surface forces appear as well as bodily forces, so that the problem is much more general than that previously treated. His method is novel, and the memoir closes with some speculations as to the action of the sun on the earth.

Bulletin de la l'Académie Royale de Belgique, No. 8.—Note on the subject of a recent communication from M. Ch. Lagrange, by M. F. Folie. The author claims to have been

the first to announce that the theoretical period of initial nutation would be found too short owing to the internal fluidity of the globe, and that the best method for observing this nutation would be that of observations at intervals of twelve hours. He also stated that the variations of latitude would be equal and of opposite sign on two opposite meridians in the same hemisphere, which was borne out by observations in Europe and Honolulu. His hypothesis explaining the annual variations is capable of explaining and estimating the systematic differences between the catalogues of Greenwich and the Cape, given by Downing, and by the diurnal nutation, the differences between Paris, Pulkowa, and Washington, and between Melbourne and the Cape.—On the origin of the microtism and the undulations of the systolic plateau of arterial pulsation, by Victor Willem. This work was undertaken in order to decide whether any of the pulsations shown by the sphygmograph and the recorders of arterial pressure have a peripheral origin, or whether they all start from the heart and its neighbourhood. Experiments upon the carotid and crural arteries of dogs show that the latter alternative is true. The author further studied the influence of various injections upon the pulsation.

SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, October 17.—Henry John Elwes, President, in the chair.—Dr. H. G. Breyer, of Prætoria, Transvaal, South Africa, was elected a Fellow of the Society. Mr. G. C. Champion read a letter, dated August 15 last, from Mr. J. Y. Johnson, of Funchal, Madeira, on the subject of a recent visitation of locusts to the island, and exhibited specimens. Mr. Johnson mentioned that Darwin, in his "Origin of Species," recorded that in November 1844, dense swarms of locusts visited Madeira. He said that since then, until August last, these insects had not visited the island. Mr. Champion remarked that the species was *Decticus albifrons*, Fabr., not a true migratory locust. Mr. Champion also exhibited specimens of *Anthaxia nitidula*, *Velleius dilatatus* and *Athous rhombeus*, taken by himself in the New Forest during the past summer.—Mr. H. Goss read a letter received from Captain Montgomery, J.P., of Mid Ilovo, Natal, reporting vast flights of locusts there, extending over three miles in length, on August 31 last, and exhibited a specimen of the locust, a species of *Acridium*. Captain Montgomery stated that, as a rule, his district, like most of Natal, was free from the pest, but that an exceptional invasion had occurred in 1850.—Mr. J. W. Tutt exhibited four typical specimens of *Emydia cribrum* from the New Forest, and, for comparison, four specimens of the variety, *candida*, of the same species, taken at an elevation of 4000 feet, near Courmayeur, on the Italian side of Mont Blanc. He stated that he had also met with this form in the Cogne Valley, at an elevation of from 6000 to 8000 feet.—Mr. R. Adkin exhibited a specimen of *Erebia athiops*, in which the left fore wing was much bleached, taken in August last, near Carnforth. Mr. Adkin also exhibited a series of *Acronycta rumicis* from Co. Cork, Ireland, including light and black forms, with examples from the Scilly Isles, Isle of Man, and North of Scotland for comparison.—Mr. Elwes exhibited a series of *Chionobas alberta* ♂ & ♀, *Chionobas uhleri*, var. *varuna*, and *Erebia discoidalis*, from Calgary, Alberta, N.W. Canada, which had been collected in May last, by Mr. Woolley-Dod. He said that the validity of *C. alberta*, which had been questioned by Mr. W. H. Edwards, was fully established by these specimens.—Prof. E. B. Poulton, F.R.S., gave an account of the changes which he had recently made at Oxford in the arrangement of the Hope Collections in the Department of Zoology, and as to the rooms now available for students working at these collections.—Mr. G. T. Bethune-Baker communicated a paper, entitled "Descriptions of the Pyralidæ, Crambidæ, and Phycidæ, collected by the late T. Vernon-Wollaston in Madeira."

PARIS.

Academy of Sciences, October 29.—M. Lœwy in the chair.—Experimental verifications of the theory of weirs, with either adherent or partly submerged water-sheet, with regard to the pressures, by M. J. Boussinesq.—On the existence in plants of principles capable of condensation with production of carbonic acid, by MM. Berthelot and G. André. Plant-leaves were

dried at 110°, reduced to powder, and then heated on an oil-bath, at 120°–130°, with 12 per cent. hydrochloric acid. The work was carried out in an atmosphere of hydrogen. It resulted in a slow evolution of carbon dioxide. This may be accounted for on the hypothesis that the contained carbohydrates have a ketonic constitution. Experiments on the simple carbohydrates are in progress.—On the movements which certain animals make in order to fall on their feet, when precipitated from a height, by M. Marey. Successive instantaneous photographs, taken in two planes, are given of a cat in the act of falling. The necessary movements are accomplished by the animal rotating the forepart of its body when drawn in, so that its moment of inertia is small as compared with that of the extended hind-quarters, and by this movement being repeated by the latter when drawn in and the fore-part extended.—A note concerning the above communication, by M. Guyon. It is shown that the rotation of the animal is not contrary to received laws.—Observations on the principle of areas, by M. Maurice Lévy.—Reduction of the equation of continuity in hydraulics to the form $\frac{dp}{dt} + v_1 \frac{dp_1}{ds} + p \frac{dv_1}{ds} - 2pv_1 \frac{d^2\alpha}{ds^2} = 0$. An abstract of a memoir

by M. P. E. Touche.—The first volume of a work by M. G. Hinrichs, "On the Mechanics of Atoms," gives a discussion of atomic weights and methods used in their determination, and treats of the question of the unity of matter.—On the problems of dynamics of which the differential equations admit a continuous group, by M. P. Staekel.—On the differentiation of trigonometric series, by M. Matyas Lerch.—On the constitution of the electric arc, by M. L. Thomas. The arc between two carbons containing metallic salts consists of a nucleus surrounded by an envelope; in the former are found the substances giving band spectra, hydrocarbons or carbon vapour and cyanogen, in the envelope metallic vapours from the dissociated salts pass from the positive to the negative pole, and there burn in the oxygen of the air, producing the metallic line spectra characteristic of this region.—Relation between the maximum vapour pressures of water, ice, and a saline solution at the freezing-point of this solution, by M. A. Ponsot.—On the gaseous products given off by wood charcoal when heated to a high temperature out of contact of air, by M. Dosmond.—On the transformation temperatures of irons and steels, by M. Georges Charpy.—Kermésite, by M. H. Baubigny.—On the superposition of optical effects of several asymmetric carbon atoms in the same active molecule, by MM. Ph. A. Guye and M. Gautier. In a molecule containing several asymmetric carbon atoms, each of them acts as if all the remainder of the molecule were inactive. The optical effects of several asymmetric carbon atoms in the same molecule are algebraically added to give the optical activity of the molecule.—On the saturated hydrocarbons with active amyl radicals, by Mdlle. Ida Welt.—On the estimation of alcohol in essential oils, by MM. Charles Fabre, Garrigou, and Surre.—On the existence of *cellules en paniers* in the *acinus* and excretory conduits of the mammary gland, by M. E. Lacroix.—Observations on a note by MM. Prillieux and Delacroix.—On the *gomme bacillaire* of vines, by M. L. Daille.—Culture of a fungus (*Collybia velutipes*) growing on wood, by MM. Costantin and Matruchot.—On the disease "Rouge" in the Paris nurseries and plantations, by M. Louis Mangin.—On the relations of the basalt and phonolite of the Suc d'Araules (Haute-Loire), by M. Ferdinand Gonnard.—On the geology of French Congo, by M. Maurice Barrat.—On several quaternary grottos of the Dordogne, and on some megalithic monuments of Orne and La Manche, by M. Émile Rivière.

NEW SOUTH WALES.

Royal Society, June 6.—C. Moore in the chair.—The following papers were read:—Notes on some minerals and mineral localities in the northern districts of New South Wales, by D. A. Porter.—On the magnetic susceptibilities of specimens of Australian basalts, by Prof. A. W. Rücker, F.R.S.—On boleite, nantokite, kerargyrite, and cuprite, from Broken Hill, by Prof. Liversidge, F.R.S.—From number to quaternion, by C. Fleuri.—New orbit of the double star β 416 = Scorpii 185, by Prof. S. Glasenapp.—On the value of gravity at the Sydney Observatory, by E. F. J. Love.—Preliminary notes on the pharmacology of *carissa ovata*, var. *stolonifera*, Bail, by Dr. T. L. Bancroft.—On the almandine garnets from the Hawkesbury sandstone at Sydney, by H. G. Smith.—On a natural mineral spring at Bungonia, by Rev. J. Milne Curran.

July 4.—Prof. Threlfall, President, in the chair.—The fol-

lowing papers were read:—On a transparent star-chart: a convenience for observers, by H. C. Russell, F.R.S.—Aboriginal Bora held at Gundabouli in 1894, by R. H. Mathews.—Observations and orbit elements of comet Gale 1894, by John Tebbutt.—On the structure and composition of some Australian basalts, by Rev. J. Milne Curran.

August 1.—Prof. Threlfall, President, in the chair.—The following papers were read:—On garbage destructors, by Prof. Warren and Dr. Ashburton Thompson.—The geology of limekilns, Bathurst district, by W. J. C. Ross.—The territorial divisions of New South Wales into counties, by W. D. Campbell.—On the timbers of New South Wales, by J. V. De Coque.—On the Aboriginal rock carvings and paintings in New South Wales, by R. H. Mathews.—The Society's bronze medal and money prize of £25 were presented to each of the two last-named gentlemen for their papers.

September 5.—Prof. Threlfall, President in the chair.—The following papers were read:—Some stone implements used by the Aborigines of New South Wales, by R. H. Mathews.—Recent researches in the testing of cement, by W. S. de Lisle Roberts.—A comparison of the languages of Ponape and Hawaii, by the late Rev. E. T. Doane, with additional notes and illustrations by Sidney H. Ray.—Preliminary note on the structure of gold nuggets, by Prof. Liversidge, F.R.S. Gold nuggets on being cut through or sliced and polished, and then etched by chlorine water, were found to exhibit well-marked crystalline structure closely resembling the Widmanstätt figures shown by most metallic meteorites, except that in the nuggets the crystals are more or less square in section and show faces which evidently belong to the octahedron and cube. On heating the nuggets in a bunsen burner, blebs or blisters form, on both the polished and unpolished surfaces, and on still more strongly heating, these, in some cases, burst with sharp reports, and pieces of gold are projected with considerable violence. As no explosions have been observed on dissolving or eating away the crusts of these blisters by chlorine water, it would appear that the blebs are probably due to the vapourisation of some liquid or solid substance. As soon as a fresh supply of nuggets is obtained, experiments will be proceeded with to ascertain definitely whether gold nuggets contain occluded gases, or liquids or solids which are vapourisable. In slicing some nuggets, scattered granules of quartz were met with inside, although quite invisible outside, and at first it was thought that the explosions might be due to the quartz; but the gas, in some cases, continued to issue from the burst bleb (where the aperture formed was small) and forced the bunsen flame out into lateral jets, just as if urged by a blow-pipe.

Linnean Society, September 26.—Prof. David, President, in the chair.—On the correct habitat of *Patella kermadecensis*, Pilsbry (= *P. Pilsbryi*, Braz.), by John Brazier. The author expressed the opinion that this is the species referred to in Mr. Percy Smith's pamphlet, "The Kermadec Islands: their Capabilities and Extent" (Wellington, 1887), which states that on Macauley Island there occur "large limpets (as big as small saucers, and good eating)."—On a *Trochus* from Port Jackson, and new varieties of *Bulimus miltocheilus*, Reeve, from the Solomon Islands, by John Brazier. Under the name of *Trochus Adamsi*, n.sp., was re-described a Port Jackson mollusc, the original specific name of which (*T. comptus*, A. Ad.) is preoccupied for a species named by Philippi. Dr. Fischer also confounded *T. comptus*, A. Ad., with the New Caledonian *T. Poupineli*, Montr., which is a distinct species. Three new varieties of *Bulimus miltocheilus*, Reeve, were also described.—Observations on *Dendrolagus bennettianus*, De Vis, by Edgar R. Waite. The author described the species from material recently obtained from the Bloomfield River, Queensland. He was of opinion that in respect of both external and anatomical characters it is a well-marked species.

AMSTERDAM.

Royal Academy of Sciences, September 29.—Prof. Vande Sande Bakhuyzen in the chair.—Mr. Beyerinck discussed the reduction of sulphates by a specific sulphide ferment. This subject bears on two questions of general bacteriology, *i.e.* (1) the production of sulphuretted hydrogen, and (2) the power of reduction. Bacteria may produce H_2S in four different ways: Firstly, from sulphur, this being dissolved, by the excretion of ammonia, amines or alkaloids forming sulphides, which are decomposed by carbonic acid; secondly, from proteids containing sulphur, well known in cases of putrefaction; thirdly,

from sulphites and thiosulphates (the latter of these substances being decomposed into sulphites and sulphur, and the sulphites acted on as in the first case); fourthly, by the reduction of sulphates. From the common reducing bacteria which turn nitrates into nitrites, and these into ammonia salts, which produce from litmus, indigo-blue, methylen-blue, &c., the corresponding leucoids, none has the power to attack sulphates. This is done by a specific ferment, a very small *spirillum*, which is perfectly anaerobic, and which is common in the black mud of polluted waters, as also in these waters themselves. It grows with very small quantities of organic nutriment, as malates, peptone, sugar, and phosphates added to common water, rendered alkaline by sodium carbonate. Temperatures from 25° to 30° are the best for reduction. For the determination of the H₂S the iodometric method can be used. Common water with the addition of $\frac{1}{10}$ per cent. sodium malate, $\frac{1}{10}$ per cent. asparagin, $\frac{1}{10}$ per cent. potassium phosphate, and $\frac{1}{2}$ per cent. sodium carbonate, infected with mud containing the ferment, and secluded from the air, and with forty-five milligrammes SO₃ per litre, was in three days quite free from this substance, containing nearly 10.2 milligr. H₂S, the cause of the deficit (twenty-one milligr. SO₃, not transformed into H₂S) being not yet quite clear. Mohr's salt (ferrous ammonium sulphate) is very well adapted for reduction experiments, the smallest trace of reduction being indicated by the formation of black FeS. The spirillum has been named *Spirillum desulfuricans*. It seems to be of geological importance, inasmuch as the deep ground water of the province of South Holland is quite free from sulphuric acid, which, being abundant on the surface, is apparently reduced by the sulphide ferment, and rendered insoluble as FeS and FeS₂.—On Kerr's magneto-optic phenomenon, by C. H. Wind. The author supposes that, in a metal placed in a magnetic field, both the conduction and the displacement current give rise to a Hall-effect, the intensity coefficient being different in the two cases. In this way the discrepancy, which exists between the experimental results, and the theory of Lorentz and Van Loghem, may be removed.—Prof. Kamerlingh Onnes read a memoir, in which Dr. Kuening gave a graphical representation of the condensation of a mixture of two substances with π and λ taken as co-ordinates. His conclusions are contradictory to those of Duhem, but in accordance with the theory of Van der Waals and his own experiments. All mixtures of two substances must show retrograde condensation.—Prof. Onnes also communicated the results of an investigation, by Dr. Borgesius, on the molecular refraction and dispersion of some salts in solution, made with an interferential refractometer especially constructed for this purpose, and giving the small differences of refraction of two fluids by a single reading of verniers and counting of striæ.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Lehrbuch der Experimental Physik: A. Wüllner, Erster Band (Leipzig, Teubner).—Elements of Metallurgy: W. J. Harrison and W. J. Harrison, Jun. (Blackie).—A Text-Book of Organic Chemistry: Dr. A. Bernthsen, translated by Dr. G. M'Gowan, 2nd English edition (Blackie).—The Rise and Development of Organic Chemistry: Dr. C. Schorlemmer, edited by Prof. A. Smithells (Macmillan).—Geometrical Conics: C. Smith (Macmillan).—Amphioxus and the Ancestry of the Vertebrates: A. Willey (Macmillan).—The Life and Correspondence of Wm. Buckland, D.D., F.R.S.: Mrs. Gordon (Murray).—Die Maschinellen Hilfsmittel der Chemischen Technik: A. Parnicke (Frankfurt a/M., Bechhold).—Arithmetic for Schools: C. Smith, 2 pts. (Cambridge University Press).—Practical Physiology of Plants: F. Darwin and E. H. Acton (Cambridge University Press).—A History of Epidemics in Britain: Dr. C. Creighton, Vol. 2 (Cambridge University Press).—An Elementary Introduction to Mineralogy: R. H. Solly (Cambridge University Press).—Report of the Commissioner of Education for the Year 1890-91, Vol. 1 (Washington).—Index Kewensis: J. D. Hooker and R. D. Jackson, Part 3 (Oxford, Clarendon Press).—An Introduction to Comparative Psychology: Prof. C. Lloyd Morgan (Scott).—Théorie de l'Ondulation Universelle: B. Conta (Paris, Alcan).—Smithsonian Institution Report to July 1892 (Washington).—Mineral Resources of the United States, 1892-93: D. T. Day (Washington).—U.S. Geological Survey Monographs: The Penokee Iron-Bearing Series of Michigan and Wisconsin: K. D. Irving and C. R. van Hise (Washington).—Tertiary Rhynchophorous Coleoptera of the U.S.: S. H. Scudder (Washington).—A Manual of Topographic Methods: H. Gannett (Washington).—Tenth Annual Report of the Bureau of Ethnology, 1888-89: J. W. Powell (Washington).—Involution and Evolution according to the Philosophy of Cycles: Kalpa, 1st part: The Universe (Eyre and Spottiswoode).—A Monograph of the Land and Freshwater Mollusca of the British Isles: J. W. Taylor, Part 1 (Leeds, Taylor).—The Life and Inventions of Thomas Alva Edison: W. K. L. Dickson and A. Dickson (Chatto).—Physiology for Beginners: Drs. M. Foster and L. E. Shore (Macmillan).—Les Chronomètres de Marine: E. Caspari (Paris, Gauthier-Villars).—Die Lebensweise der Meeresthiere, Zweiter Theil einer Einleitung in die Geologie als Historische Wissenschaft: Prof. J. Walther (Jena, Fischer).—The Construction of the Modern Locomotive: G. Hughes (Spon).—Commercial Geography: Prof. Gonner (Macmillan).—Horse-Breeding for

Farmers: A. E. Pease (Macmillan).—A Treatise on Hygiene and Public Health, Vol. 3 (Churchill).—The Deserts of Southern France, 2 Vols.: S. Baring-Gould (Methuen).—Sir Victor Brooke, Sportsman and Naturalist: O. Leslie Stephen (Murray).—The Mountains of California: J. Muir (Unwin).—Illustrated Catalogue of Microscopes &c., manufactured by R. and J. Beck, Ltd. (68, Cornhill).—A Text-Book of Mechanical Engineering: W. J. Lineham (Chapman and Hall).—Royal Natural History, Vol. 2 (Warne).—Geotektonische Probleme: A. Rothpletz (Stuttgart, Koch).—Morphologie der Erdoberfläche, 2 Vols.: Dr. A. Penck (Stuttgart, Engelhorn).—Twelfth Annual Report of the Fishery Board for Scotland, 1893, Part 3: Scientific Investigations (Edinburgh).—Lectures on the Darwinian Theory: Prof. A. Milnes Marshall (Nutt).—Album von Papia-Typen: A. B. Meyer and R. Parkinson (Dresden, Stengel).

PAMPHLETS.—National Health: C. Scott (Belfast, Mullan).—Report on Experiments on the Manuring of Hay, Oats, and Turnips (Glasgow).—The Pamunkey Indians of Virginia: J. G. Pollard (Washington).—Bibliography of the Wakashan Languages: J. C. Pilling (Washington).

SERIALS.—Physical Society of London. Proceedings, Vol. xiii, Part 1 (Taylor and Francis).—Journal of Anatomy and Physiology, October (Griffin).—Journal of the Royal Microscopical Society, October (Williams).—Longman's Magazine, November (Longmans).—English Illustrated Magazine, November (198 Strand).—Mineralogical Magazine, September (Simpkin).—Sunday Magazine, November, (Isbister).—Good Words, November (Isbister).—American Journal of Mathematics, Vol. xvi, No. 4 (Baltimore).—Bulletin of the American Mathematical Society, October (New York, Macmillan).—L'Anthropologie, tome v. No. 5 (Paris, Masson).—Beiträge zur Biologie der Pflanzen, vii. Band, 1 Heft (Breslau, Max Müller).—Morphologisches Jahrbuch, 21. Band, 4 Heft (Leipzig, Engelmann).—Bulletin of the U.S. Geological Survey, Nos. 97-117 (Washington).—Transactions of the Leicester Literary and Philosophical Society, Vol. 3, Parts 4 to 8 (Leicester; Gibbons).—Zeitschrift für Wissenschaft Zoologie, lviii. Band, 3 Heft (Leipzig, Engelmann).—Contemporary Review, November (Isbister).—Natural Science, November (Macmillan).—Humanitarian, November (Hutchinson).—Quarterly Journal of the Geological Society, Vol. 1, Part 4, No. 200 (Longmans).—Geological Magazine, November (Stanford).—Journal of the Chemical Society, November (Gurney and Jackson).—Geological Magazine, November (Paul).—Scribner's Magazine, November (Low).—Natural History of Plants: Kerner and Oliver, Part 7 (Blackie).—Fortnightly Review, November (Chapman and Hall).

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